

## MPE Calculation Method

Predication of MPE limit at a given distance

Equation from page 19 of OET Bulletin 65, Edition 97-01

$$S = \frac{EIRP}{4\pi R^2}$$

where:

S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)

EIRP = equivalent (or effective) isotropically radiated power (in appropriate units, e.g., mW)

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, r =20cm, as well as the gain of the used antenna is 2dBi, the RF power density can be obtained. So, the worst result is below:

Max Output Power = 13.141 dBm, Ant gain 3.5dBi

EIRP=PG= (13.141+3.5) dBm=16.641 dBm=10<sup>(16.641/10)</sup> mW=46.14mW

So,  $S = \frac{EIRP}{4\pi R^2} = \frac{46.14}{4\pi \times 20^2} = \underline{0.009} \text{mW/cm}^2 < 1.0 \text{mW/cm}^2$

Conclusion: **Pass.**